Amendments to the specification

Please amend the specification as follows (references refer to the application as filed):

On page 16, paragraph 35:

{0035] Further, it is understood that α-MSH and/or its derivatives may be used in this invention as a dimer. For example, the dimer of KPV is VPK-Ac-CC-Ac-KPV (SEQ ID. NO. 6). Moreover, it is known that substitution of certain amino acids with their stereo isomer results in a molecule with similar or greater efficacy. Thus, KDPV (SEQ ID NO:7), where DP is the D-isomer of proline, is an effective functional equivalent of α-MSH. Substitutions with other equivalent amino acids may also be employed. For example, by substitutions at amino acid 4 and 7 in the α-MSH parent molecule, the resulting molecule becoming [Nle^4,D-Phe^7]-α-MSH ("NDP-α-MSH") (SEQ ID NO:8), has been shown be a stable and potent functional equivalent of α-MSH. This is further described in Example 1, below.

On page 21, paragraph 48:

[0048] This example illustrates the biological functional equivalents for; α-MSH; termed herein as its derivatives. Although the specific amino acid sequence described here is effective, it is clear to those familiar with the art that amino acids can be substituted or deleted without altering the effectiveness of the peptides. Further, it is known that stabilization of the α-MSH and/or its derivatives' sequence can greatly increase the activity of the peptide and that substitution of D-amino acid forms for L-forms can improve or decrease the effectiveness of the peptides. For example, a stable analog of α-MSH, [Nle^4,D-Phe^7]-α-MSH (SEQ ID NO:8), which is known to have marked biological activity on melanocytes and melanoma cells, is approximately ten times more potent than the parent peptide in reducing fever. Further, adding amino acids to the C-terminal of α-MSH(11-13) (SEQ.ID.NO.2) sequence can reduce or enhance antipyretic potency. It is known that Ac-[D-K11]-α-MSH 11-13-NH2 (SEQ ID NO:9) has the same general potency as the L-form of the tripeptide α-MSH (11-13) (SEQ.ID.NO.2). However, substitution with D-proline in position 12 of the tripeptide rendered it inactive. See e.g. Holdeman, M., et. al., *Antipyretic Activity of a Potent a-MSH Analog*, Peptides 6, 273-5 (1985). Deeter, L. B., et. al., *Antipyretic Properties of Centrally Administered a-MSH Fragments in the Rabbit*, Peptides 9, 1285-8 (1989). Hiltz, M. E., *Anti-inflammatory Activity of a-MSH (11-13) Analogs: Influences of Alterations in Stereochemistry*, Peptides 12, 767-71 (1991).

On page 25, paragraph 56:

[0056] Biopsy specimens of duodenal mucosa assigned to RT-PCR studies were snap frozen in liquid nitrogen and stored at -80° C. Total RNA was isolated from homogenized specimens using the acid phenol--guanidinium thiocyanate method (Chomczynski P, Sacchi N., *Single-step method of RNA isolation by acid guanidinium thiocyanate-phenol-chloroform extraction*, Anal Biochem 1987; 162:156-159), and stored at -80° C. To prevent misinterpretation due to genomic contamination, as MCR genes lack introns, total RNA was treated with amplification grade RNase-free DNase I (Life Technologies, Gaithersburg, Md.) at room temperature for 15 min. DNase I was then inactivated by adding 2.5 mM EDTA and heating at 65° C. for 10 min. First-strand cDNA synthesis was performed, using 1 μg of each RNA sample, 20 pmoles of oligo $(dT)^{18}$ primer, and 200 U of MMLV reverse transcriptase (Clontech Laboratories, Palo Alto, Calif.) in a 20-μl reaction volume. PCR amplifications were performed on portions (4-10%) of each diluted (1:5) cDNA mixture in a 25-μl reaction volume containing 20 pmoles each of upstream and downstream primers, 1U of AmpliTaq DNA polymerase (Perkin Elmer Applied Biosystems, Foster City, Calif.), 200 μM dNTPs and 1-1.5 mM $MgCl_2$. PCR reaction mixture and temperature profile conditions were tested against positive controls for each specific mRNA in preliminary experiments. The POMC primer pair (upstream 5'-GAGGGCAAGCGCTCCTACTCC-3'(SEQ ID NO:10), downstream 5'-GGGGCCCTCGTCCTTCTTCTC-3' (SEQ ID NO:11)) generated a 260-base pair (bp) product, the MCIR pair (upstream 5'-GCCACCATCGCCAAGAACC-3' (SEQ ID NO:12), downstream 5'-ATAGCCAGGAAGAAGACCA-3' (SEQ ID NO:13)) a 416-bp product, the MC3R pair (upstream 5'-CGGTGGCCGACATGCTGGTAAGTG-3' (SEQ ID NO:14), downstream 5'-TGAGGAGCATCATGGCGAAGAACA-3' (SEQ ID NO:15)) a 461-bp product, the MC5R pair (upstream 5'-CATTGCTGTGGAGGTGTTTCT-3' (SEQ ID NO:16), downstream 5'-GCCGTCATGATGTGGTGGTAG-3' (SEQ ID NO:17)) a 357-bp product. All PCR products were resolved by 2% agarose gel electrophoresis. A glyceraldehyde-3-phosphate dehydrogenase (G3PDH) primer pair (upstream 5'-TGAAGGTCGGAGTCAACGGATTTGGT-3' (SEQ ID NO:18), downstream 5'-CATGTGGGCCATGAGGTCCACCAC-3' (SEQ ID NO:19)), generating a 980-bp product, was used for normalization.